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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,840

10/03/2005

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EXAMINER

VANAMAN, FRANK BENNETT

ART UNIT

PAPER NUMBER

3618

MAIL DATE

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05/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,840	Applicant(s) KANO ET AL.	
	Examiner Frank B. Vanaman	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 9-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/27/05, 6/30/06</u> | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's election without traverse of Species I in the reply filed on April 25, 2008 is acknowledged.
2. Applicant has identified claims 1-8 as being readable on the elected species. Claims 9-30 are thus withdrawn from consideration, and an office action directed to the merits of claims 1-8 follows.

Specification

3. The disclosure is objected to because of the following informalities: The specification lacks as its first paragraph, a statement describing the priority claim; in paragraph 0077, lines 1-2, the description "AC permanent magnet synchronous motor (brushless DC motor)" appears to present a parenthetical further description, however from the context, it appears as though the motor described parenthetically should be specifically identified an alternative motor usable in the embodiment. A similar condition may be found in paragraph 0092, lines 1-2 in the description of motor 23.

Appropriate correction is required.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. The examiner notes with appreciation that applicant's preliminary amendment to the specification (filed April 27, 2005) has already corrected a number of grammatical informalities.

Claim Rejections - 35 USC § 112

5. Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 7, line 4 and claim 8, line 4, the respective recitation of a second inner peripheral side of the transmission where no first inner peripheral side of the transmission has been recited, and the recitation of a third inner peripheral side of the power splitting gear set where no first or second inner peripheral sides of the power splitting gear have been recited appears to be confusing.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morisawa et al. (US 5,904,631, cited by applicant) in view of Riley (US 1,918,490). Morisawa et al. teach a drive unit for a hybrid vehicle including an engine (102) with a drive shaft (104, 124) for providing power from the engine to be input to the drive, an output shaft (108) disposed in-line with the input shaft (124) for driving vehicle wheels, a pair of electric motor generators (MG1, MG2) each having respective stators (143, 133) connected to the casing which holds the drive unit (see figure 2), each of MG1 and MG2 having a respective rotor (142, 145; 132, 135) at least one of the motors (MG1) being disposed at a distal end of the casing and the other (MG2) being foremost-positioned with respect to the transmission, power split and other motor; a group of gear-set elements including a power splitting planetary gearing including a first rotary member (114) connected to the input shaft (124), a second rotary element (115) connected to the rotor (142) of a foremost of the motors (through 128), and a third rotary element (126) connected to the output shaft (108), and a transmission which shifts and transmits the revolution of the rotor of a second motor (132) through (122, 112) to the output shaft (108), all of the first and second motor and the transmission and power-splitting planetary gear set being disposed on the central axis coaxial with the input and output shafts and being arranged in order (i.e., first motor, transmission and power splitting gear set, second motor) in order along the axis, disposed within the casing, the casing including a portion (left most in figure 2) for attachment to the engine, wherein the input shaft (124) passes through both inner peripheral sides of the first motor (MG2), and through a portion of the power splitting gearing and transmission (e.g., inwardly of at least the portion of the power splitting gearing and transmission connected to portion

128), and the output shaft passes through an inner peripheral side of the power splitting gearing and transmission (e.g., inwardly of 122, 112) and through both inner peripheral sides of the second motor (MG1). The reference to Morisawa et al. fails to teach the distal end of the casing as including a mounting section that can be supported by a body. Riley teaches that it is very old and very well known to provide an end of a transmission assembly (3) which is distal from an engine (2) with a mounting section (5, 6) which can be supported by a body (9, 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the distal end of the casing taught by Morisawa et al. with a mounting section that can be supported by a body as taught by Riley, for the old and well known purpose of supporting a rearward end of the assembly with respect to the vehicle frame and body.

8. Claims 2, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morisawa et al. in view of Riley and Klemen et al. (US 6,022,287). The reference to Morisawa et al. as modified by Riley is discussed above and fails to teach that the casing includes supporting members extending from the casing to support both sides of the rotors of the motor units, through an intermediary of bearing elements. Klemen et al. teach that it is well known to provide a transmission device including gearing and a pair of electric machines, including providing support for both sides of a pair of rotors (28, 34) by using support members (64, 38, 156) which are connected to, and extend inwardly from an outer casing (36 in general) and by the use of intermediary bearing elements (142, 46, 48, 238), and where an output shaft (158) is additionally supported by an intermediary bearing element (162) and an input shaft (66) is additionally supported by an intermediary bearing element (74). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the input shaft, output shaft and both sides of both rotors of the drive arrangement taught by Morisawa et al. as modified by Riley with intermediary support bearings as taught by Klemen et al. for the old and well known reason of at least providing adequate rotary support to the rotating elements and/or preventing misalignment of the respective elements (particularly the rotors) and/or reducing operating friction. In general, the examiner notes

that providing support bearings for rotary elements is very well known in the automotive arts.

Note that a provision of a rearward most bearing support element associated with a rotor (e.g., bearing 238, support 156) at a location to the rear of the rotor (note the connection of 156 to 36) would be proximate a rear end of the casing, and as such, would overlap with a mounting section also provided at the rear of the casing as in the combination with Riley. Alternatively, it would have been obvious to one of ordinary skill in the art at the time of the invention to co-locate the rearward support portion and mounting section to ensure direct support to a rearward end of the casing, for the purpose of providing support directly at the casing end, instead of, for example, providing an unsupported (or cantilevered) end portion of the casing.

Allowable Subject Matter

9. Claim 8, as best understood, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. As regards claims currently rejected under 35 USC §112, second paragraph, please note that rejections under 35 USC §102 and 103 should not be based upon considerable speculation as to the meaning of the terms employed and assumptions as to the scope of the claims when the claims are not definite. See *In re Steele* 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962). When no reasonably definite meaning can be ascribed to certain terms in a claim, the subject matter does not become anticipated or obvious, but rather the claim becomes indefinite. See *In re Wilson* 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). As such the currently pending claims may be subject to prior art rejections not set forth herein upon the clarification of the claim language.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schmidt (US 5,935,035 and 5,603,671) and Reynolds (US 3,236,326) teach arrangements of pertinence.

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12. Any inquiry specifically concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 571-272-6701.

Any inquiries of a general nature or relating to the status of this application may be made through either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A response to this action should be mailed to:

Mail Stop _____
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450,

Or faxed to:

PTO Central Fax: 571-273-8300

F. VANAMAN
Primary Examiner
Art Unit 3618

/Frank B Vanaman/
Primary Examiner, Art Unit 3618